

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YUKINOBU KONISHI,
AKIO NAKAYAMA, and KAZUHIRO KOBAYASHI

Appeal 2007-3975
Application 10/082,984¹
Technology Center 2800

Decided: November 20, 2007

Before JOSEPH L. DIXON, JAY P. LUCAS, and SCOTT R. BOALICK,
Administrative Patent Judges.

BOALICK, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-6, all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ Application filed February 25, 2002. The real party in interest is Advanced Display, Inc.

STATEMENT OF THE CASE

Appellants' invention relates to an active-matrix liquid crystal display that uses thin film transistors (TFTs) as switching devices. (Spec. 1:2-4.)

Claim 1 is exemplary:

1. A liquid crystal display comprising

a TFT substrate, a counter substrate facing the TFT substrate, and liquid crystal interposed between the substrates, wherein

the TFT array substrate has a display area and a terminal forming area,

the display area is provided with a pixel electrode, a switching element connected to the pixel electrode, a gate line connected to the switching element and a source line connected to the switching element,

the terminal forming area is provided with a terminal electrode for connecting the gate line or source line to at least one external signal source, and

wherein

a first metallic line and a second metallic line, both connected to the terminal electrode via respective contact holes, are arranged below the terminal electrode at the terminal forming area, and an insulating layer is interposed between the first metallic line and the second metallic line and serves, during fabrication of said display, to minimize exfoliation of the second metallic line, and short circuits resulting from such exfoliation.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Ellis	US 5,546,204	Aug. 13, 1996
Nishikawa	US 5,724,107	May 3, 1998
Fujihara	US 5,771,083	Jun. 23, 1998

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being obvious over Fujihara, Nishikawa, and Ellis.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).²

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103(a). The issue turns on whether Fujihara, Nishikawa, and Ellis teach or suggest each and every limitation of the claims.

² Except as will be noted in this opinion, Appellants have not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim. *See* 37 C.F.R. § 41.37(c)(1)(vii).

PRINCIPLES OF LAW

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

ANALYSIS

Appellants contend that Examiner erred in rejecting claims 1-6.
We agree.

Regarding claim 1, the Examiner found that Fujihara "fails to specifically disclose a terminal forming area with a terminal electrode for connecting to the gate or source line to an external signal source, such that the first metallic line (fig. 2, ref. 3, 7) and the second metallic line (fig. 2, ref. 2) are both connected to the terminal electrode via respective contact holes (fig. 2, ref. 13) arranged below the terminal electrode." (Ans. 4.) The Examiner then found that "Nishikawa discloses a terminal forming area with a terminal electrode for connecting to the gate or source line to an external signal source (fig. 6, ref. 14c)." (Ans. 4.) We agree with these findings.

Appellants broadly argue that Nishikawa "does not suggest the specific structure recited in the last paragraph of claim 1." (App. Br. 5.) We more narrowly agree with Appellants that Nishikawa does not teach or suggest "a first metallic line and a second metallic line, both connected to the terminal electrode via respective contact holes, . . . arranged below the terminal electrode at the terminal forming area," as claimed.

Specifically, as shown in Figures 5 and 6, Nishikawa teaches an input terminal electrode 14C that forms an input capacitor at an area where the terminal electrode 14C faces the storage capacitor electrode 40. (Nishikawa col. 7, l. 52 to col. 8, l. 1.) The input capacitor is connected in series with a storage capacitor that is formed by the storage capacitor electrode 40 and pixel electrode 14P. (Nishikawa col. 8, ll. 1-5; col. 6, ll. 18-19; Fig. 4.) The pixel electrode 14P is integral with the source electrode 14S. (Nishikawa col. 9, ll. 40-41; Fig. 4.) Thus, Nishikawa teaches that the source electrode 14S is connected to the terminal electrode 14C and therefore teaches a first metallic line connected to the terminal electrode.

However, Nishikawa does not teach or suggest a second metallic line also connected to the terminal electrode. In particular, Nishikawa does not teach or suggest that the gate electrode 17G also is connected to the terminal electrode 14C. In addition, the gate electrode 17G is arranged above, rather than below, the terminal electrode 14C and the source electrode 14S is arranged at the same level as, rather than below, the terminal electrode 14C. Neither Fujihara nor Ellis remedy these deficiencies of Nishikawa.

Moreover, there is no evidence that the limitation of a first metallic line and a second metallic line, both connected to the terminal electrode via respective contact holes, arranged below the terminal electrode at the terminal forming area is a predictable variation of the prior art. Nor is there evidence that this limitation would be common sense or a creative step that a person of ordinary skill in the art would employ.

Claims 2-6 were not argued separately, and stand together with claim 1.

CONCLUSION OF LAW

We conclude that the Examiner erred in rejecting claims 1-6 under 35 U.S.C. § 103.

DECISION

The rejection of claims 1-6 for obviousness under 35 U.S.C. § 103 is reversed.

REVERSED

KIS

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